DEPARTMENT OF ENVIRONMENTAL QUALITY AIR QUALITY DIVISION ACTIVITY REPORT: On-site Inspection

N550072005								
FACILITY: WHITENS KILN AND LUMI	SRN / ID: N3388							
LOCATION: IXL INDUSTRIAL PARK,	DISTRICT: Marquette							
CITY: HERMANSVILLE	COUNTY: MENOMINEE							
CONTACT: Russ Whitens , Owner	ACTIVITY DATE: 03/26/2024							
STAFF: Drew Yesmunt	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR						
SUBJECT: FY24 targeted inspection. Facility is in compliance.								
RESOLVED COMPLAINTS:								

Facility: Whitens Kiln and Lumber (SRN: N3388)

Location: N16407 IXL Dr, Hermansville, MI 49847

Contact(s): Russ Whitens, Owner; Dave Whitens, Records

Regulatory Authority

N1220072002

Under the Authority of Section 5526 of Part 55 of NREPA, the Department of Environment, Great Lakes, and Energy may upon the presentation of their card, and stating the authority and purpose of the investigation, enter and inspect any property at reasonable times for the purpose of investigating either an actual or suspected source of air pollution or ascertaining compliance or noncompliance with NREPA, Rules promulgated thereunder, and the federal Clean Air Act.

Facility Description

Whitens Kiln and Lumber is a wood processing company that produces hardwood lumber products. The company was founded in 1887 and is based out of Hermansville, Michigan. Green logs are sourced from Michigan's Upper Peninsula and Wisconsin. The logs are debarked, cut, planed, kiln dried, and stacked on-site. The species processed include maple, basswood, aspen, red oak, white ash, and birch. Dried lumber is then sold to other sawmills and manufacturers. In 2023, the facility produced approximately 2,000,000 board ft of lumber.

The facility's operations include three wood-waste fired boilers to provide steam for kiln drying, chip and sawdust storage for the boiler, a sawmill that houses debarking and sawing operations, four indirect-heated wood drying kilns, planing and surfacing equipment, and a stacker.

Emissions

Wood product manufacturing involves the generation of sawdust, planer shavings, and/or sander dust which contribute to levels of atmospheric PM and PM10. Cyclones and baghouses act as capture/collection systems for air pollution control and product recovery by separating wood

residue from the airstream of pneumatic handling systems. Volatile organic compounds (VOCs) are also emitted during the kiln drying of wood.

Primary emissions from waste-wood boilers include PM, CO, NOx, and VOCs. The incomplete combustion of the organic material causes the release of these pollutants. Furnace design and operating conditions (air/fuel ratio) contribute to combustion efficiency that in turn affects the quantity of pollutants emitted.

Emissions Reporting

The facility is a considered a true minor source for all criteria and hazardous air pollutants. No equipment on-site is subject to the New Source Performance Standards and the actual emissions from the source do not meet the reporting threshold. Thus, this facility is not required to submit annual emissions to the MiEnviro each year.

Compliance History

The facility was last inspected in April 2015 and was found to be in compliance with PTI No. 285-92. No violation notices have been issued to the facility in the last five years.

Inspection

On March 26, 2024, AQD staff (Drew Yesmunt and Michael Conklin) conducted a targeted inspection of Whitens Kiln and Lumber in Hermansville, MI. AQD staff arrived at the facility and met with Russ Whitens. It was explained that the purpose of the inspection was to ensure compliance with PTI No. 285-92 and all other applicable air pollution control rules and federal regulations. A tour of the facility was then provided.

The facility has three 150 horsepower Tudor boilers capable of burning waste-wood and waste-oil permitted under PTI No. 285-92. The facility is permitted to burn up to 20 gallons of waste oil a month but stated that instead, waste-oil produced on-site is given to local businesses. Ash from the boilers is also sold to local farmers. At the time of inspection, Boiler No. 3 was the only boiler operating. It was explained to AQD staff that Boiler No. 1 was not operational and there was no plan to return the unit to an operational state. Boilers No. 2 and 3 remain operational, but it was stated that only one is ever fired at a time. It was also explained that by using the automatic fuel feed system, only one boiler is able to be fed at a time. In 2023, the fuel usage for the boilers consisted of approximately 700 tons of sawdust and 300 tons of clean woodchips.

The facility operates an in-house sawmill to turn green logs to cut lumber. This equipment is considered exempt from Rule 201 PTI requirements under R 336.1285(2)(I)(vi) as equipment for

cutting, sawing, surface grinding, sanding, and planing wood or wood products with external venting and collection of pollutants by appropriately designed and operated control equipment. At the time of inspection, all equipment in the sawmill was operating. PM emissions from the sawmill are collected by a cyclone. Collected waste-wood is either used as fuel for the boilers or sold to other businesses.

The facility also operates four indirect fired wood drying kilns. At the time of inspection, none of the kilns were operating. Each kiln has a capacity 35,000 board feet. It was stated that the kilns are heated between 110 and 180 degrees Fahrenheit throughout the drying cycle and run 10 to 25 days per cycle depending on the species of wood. This equipment is considered exempt from Rule 201 PTI requirements under R 336.1291 as emission units with "de minimis" emissions.

The table below shows the estimated maximum VOC emissions for the four kilns. Values were calculated using emission factors from the Forest Product Journal article "Estimated VOC Losses During the Drying of Six Eastern Hardwood Species" and assuming maximum throughput. Maximum annual VOC emissions were estimated to be 3.679 tons, below the threshold value for VOC emissions under R 336.1291 of 5 tpy.

Unit ID	Kiln Capacity	Drying Time	Maximum Kiln Cycles	Max Kiln Throughput at Max Cycles	Emission Factor	VOC Emissions	VOC Emissions
Unit	1,000 BF	Days	Cycles/Year	1,000 Board -Feet	lb VOC/1,000 BF	tpy	lb/hr
EUKILN	35	10.00	36.50	1,277.5	1.44	0.920	0.21
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Totals 4 Kilns	140.00			5,110.0		3.679	0.840

Compliance

Based on this inspection and the records reviewed, Whitens Kiln and Lumber appears to be in compliance with PTI No. 285-92 and all other applicable air pollution control rules and federal regulations. It was conveyed to the facility that no violations were observed during the on-site inspection. Image



Image 1: Facility boilerhouse and stack



Image 2: Waste-wood fired boilers.



Image 3: Boiler fuel feed chute





Image 4: Facility sawmill and handling system



Image 5: Cyclone and shaker control for sawmill



Image 6: Sawdust being collected from sawmill for sale

Image 7: One of four indirect-fired kilns



Image 8: Temperature monitor for kilns



Image 9: Facility wood surfacer

NAME_____

DATE 5/24/2024 SUPERVISOR